

REMARKS

Claims 1-7 are pending. No new matter has been added by way of the present submission. For instance, the claims have been amended to replace the recitations of “kinds” with “members”, to replace “chrome” with “chromium”, to replace “alkali” with “alkaline” and to insert the phrase “a pH of” prior to “3.5.” Additionally, the phrase “having a BET surface area of 4 to 16” has been inserted into claims 1 and 5 as supported by page 6, line 22 to page 7, line 1 of the present specification. The metal salts have also been defined as a specific group including a vanadium salt as supported by originally filed claims 1 and 5 as the present specification at page 3, line 20 as well as the Examples. Also, “strontium” is no longer listed separate from “alkaline earth metals.” Lastly, new claims 6 and 7 are supported by the present specification at page 6, lines 13-16. Accordingly, no new matter has been added.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Objections to the Claims

The Examiner has objected to the claims for various reasons listed at the outstanding Office Action at page 2. Applicants respectfully traverse. The Examiner has suggested several changes to the claims which have been adopted in the presently pending claims. Accordingly, these objections are moot. Reconsideration and withdrawal thereof are respectfully requested.

Issues under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 1-5 under 35 U.S.C. § 112, second paragraph for the

reasons recited at page 3 of the outstanding Office Action. Applicants respectfully traverse each of these rejections.

First, the Examiner asserts that in claim 1, step a,) it appears that according to the chemical formula 1, all four components (e.g., Mo, W, V and A) are required, however, step a) only requires “one kind of metal salt.” Applicants traverse and submit that claim 1 and claim 5 have been amended to indicate that the four metal salts (Mo, W, V and A) are dissolved in water to prepare the catalyst suspension.

Second, the Examiner asserts that in claim 1, step a), and claim 5, “strontium” belongs to the alkaline earth metals group and thus should not be listed separately. Applicants traverse and submit that strontium is no longer listed separately in either claim 1 or claim 5.

Third, the Examiner points out that in claim 1 (and claim 5), the recitation of “vanadium” appears to be missing from the metal salts. Applicants traverse and submit that the claims have been amended to list salts of vanadium.

In view of the above, Applicants respectfully submit that the present claims fully satisfy the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, the Examiner is respectfully requested to withdraw these rejections.

Obviousness-type Double Patenting

The Examiner has provisionally rejected claims 1 and 5 under the judicially created doctrine of obviousness-type double patenting as being obvious over claims 1 and 5 of copending application no. 10/509,645 (the ‘645 application). Applicants respectfully traverse this rejection.

Applicants submit that present claims 1 and 5 are patentably distinct from claims 1 and 5 of the '645 application. For instance, the Examiner is requested to refer to the following chart which exemplifies the differences between the present invention and the claims of the '645 application.

	The Present Invention	The '645 Application
Catalyst	$\text{Mo}_a\text{W}_b\text{V}_c\text{A}_d\text{B}_e\text{O}_x$ wherein Mo is molybdenum, W is tungsten, V is vanadium; A is iron, copper, bismuth, chrome, tin, antimony, or potassium; B is an alkali earth metal; and a, b, c, d, and e respectively represent the atomic ratio of each metal, and when a is 12, b is 1~5, c is 1~6, d is 1~5, and e is 0~3, and x is determined according to the oxidation state of each metal.	$\text{Mo}_a\text{Bi}_b\text{Fe}_c\text{X}_d\text{Y}_e\text{O}_f$ wherein Mo is molybdenum, Bi is bismuth, Fe is iron, X is cobalt, tungsten, vanadium, antimony, or nickel, Y is potassium, rubidium, or cesium, each of a, b, c, d, and e represents the atomic mole ratio of each metal, and when a is 12, b is 0.5~2, c is 0.5~2, d is 3~8, and e is 0.005~0.2, and f is determined according to oxidation state of each metal.
Fe/Bi	Only one of Fe and Bi or none of them may be present in the catalyst, and in any case. Thus, both of the two metals are not simultaneously present in the catalyst.	Both of Fe and Bi are present in the catalyst.
W/V	Both of W and V are present in the catalyst.	Only one of W and V or neither of the two may be present in the catalyst, and in any case. Thus, both metals are not simultaneously present in the catalyst.
Dissolvent for metal salts	The metal salts dissolved in water to prepare a catalyst suspension.	The metal salts dissolved in a nitric acid aqueous solution or an organic acid solution to prepare a catalyst suspension.
Acidity control	The acidity of the catalyst suspension is controlled to a pH of 3.5-6.5 by adding a base solution and acidic solution.	The acidity is not controlled.

A review of the above Table reveals that the present claims and the claims of the '645 application are distinct. As shown in the table, the subject invention is clearly distinguished from the copending invention in the components of the catalyst and the preparing processes thereof. In particular, in the subject invention, the particle size in the catalyst suspension becomes smaller, and the catalyst having a proper BET surface area, and thus, superior activity and selectivity can be obtained, by such acidity control. Therefore, the Examiner's "obviousness-type" double patenting rejection, whether provisional or not, is improper. Reconsideration and withdrawal thereof are respectfully requested.

Issues under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-5 under 35 U.S.C. § 103(a) as being obvious over Krabetz et al., USP 4,259,211 (hereinafter referred to as Krabetz '211) in view of Khoobiar, USP 4,271,040 (hereinafter referred to as Khoobiar '040). Applicants respectfully traverse this rejection.

Claim 1 of the present invention (and claims 2-4, which depend thereon) is directed to a method for preparing a catalyst. As part of the present method, the acidity of the catalyst suspension is controlled to a pH of 3.5 - 6.5, and an alkaline earth metal salt is used in preparing the catalyst suspension. By controlling the pH to the above range, the particle size in the catalyst suspension becomes smaller, and the BET surface area of the prepared catalyst can be adjusted in the recited range of from 4 to 15. This results in obtaining a catalyst having a superior activity and selectivity. Further, by using the alkaline earth metal salt, the electronic structure of the catalyst is altered, to improve the selectivity of the catalyst.

To the contrary, neither Krabetz '211 nor Khoobiar '040 suggest or disclose the above aspects of the present invention. That is, neither reference mentions the control of the acidity to the presently claimed range and use of an alkaline earth metal salt. Therefore, there exists no *prima facie* case of obviousness.

Also, due to the failure of the cited art to practice the presently claimed subject matter, the cited art further fails to recognize the advantageous properties achieved by the present invention. That is, the superior properties with respect to activity and selectivity achieved by the present invention are totally unexpected over the cited art. Therefore, any hypothetical case of obvious is rendered moot.


Further, the catalyst claimed in Claim 5 of the present invention relates to an alkaline earth metal and has the BET surface area of 4 to 15. As stated above, the alkaline earth metal changes the electronic structure of the catalyst, to improve the selectivity of the catalyst, and the catalyst having the BET surface area of such range has an improved activity. However, neither of the cited references contain a disclosure in connection with the alkaline earth metal as a component of the catalyst and the BET surface area of the catalyst. Therefore, claim 5 is patentable over the cited art. Further, the cited art fails to recognize the advantageous effects achieved by the present invention, thus, any hypothetical *prima facie* case of obviousness is moot.

In view of the above, Applicants respectfully submit that the present claims define patentable subject matter. Accordingly, the Examiner is respectfully requested to withdraw all rejections and allow the currently pending claims.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Dated: November 7, 2005

Respectfully submitted,

By  42-874
James T. Eller, Jr.
Registration No.: 39,538
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant